



FIG. 1A
(Prior Art)

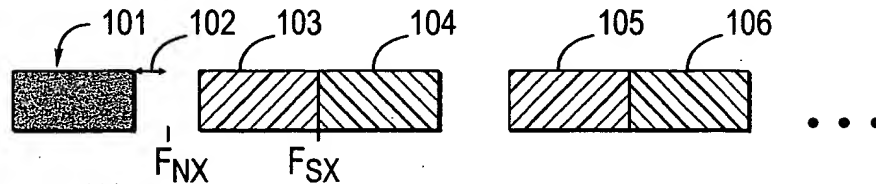


FIG. 1B
(Prior Art)

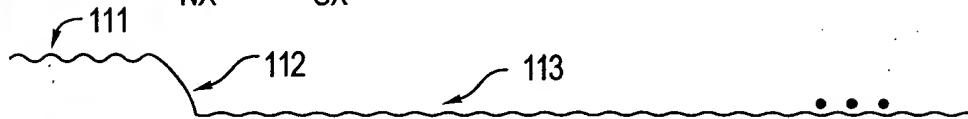


FIG. 1C
(Prior Art)

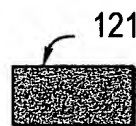


FIG. 2A
(Prior Art)

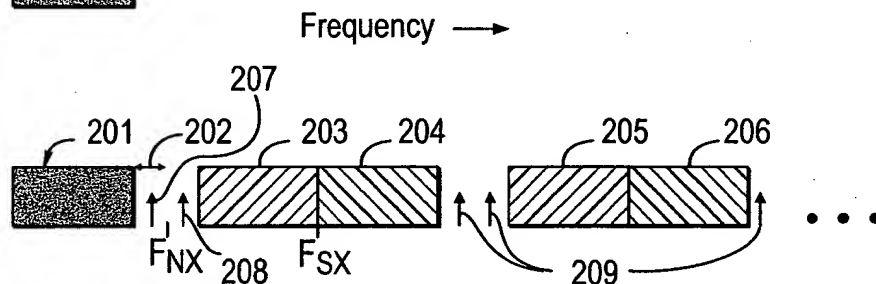


FIG. 2B
(Prior Art)



FIG. 2C
(Prior Art)



FIG. 2D
(Prior Art)

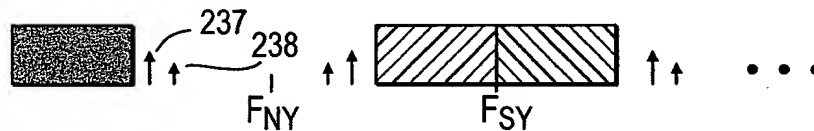


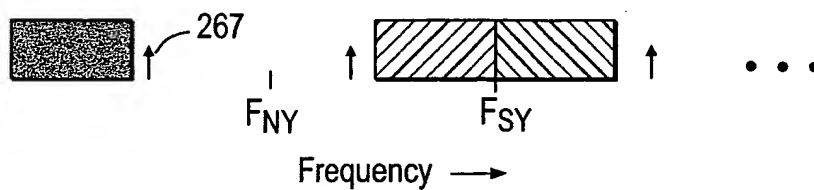
FIG. 2E
(Prior Art)

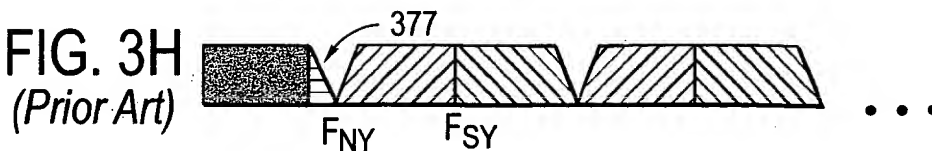
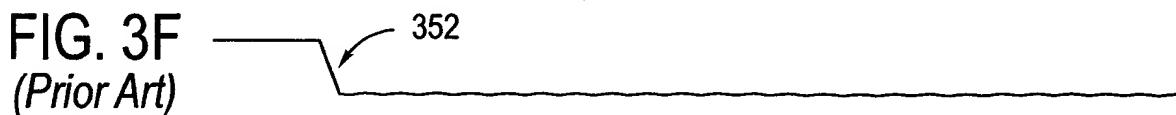
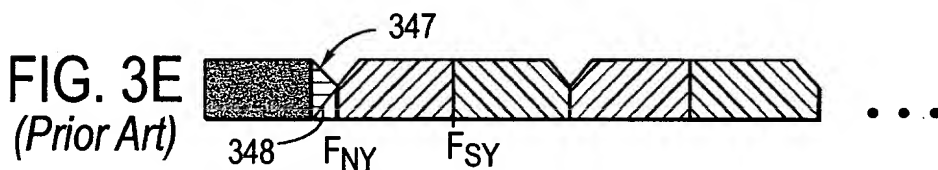
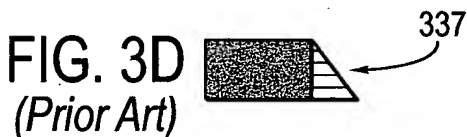
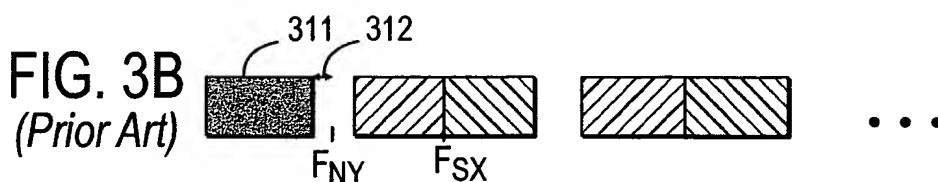
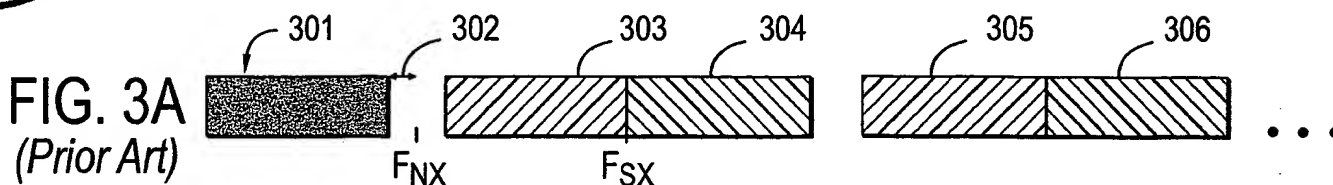


FIG. 2F
(Prior Art)



FIG. 2G
(Prior Art)





Frequency →



FIG. 4A
(Prior Art)

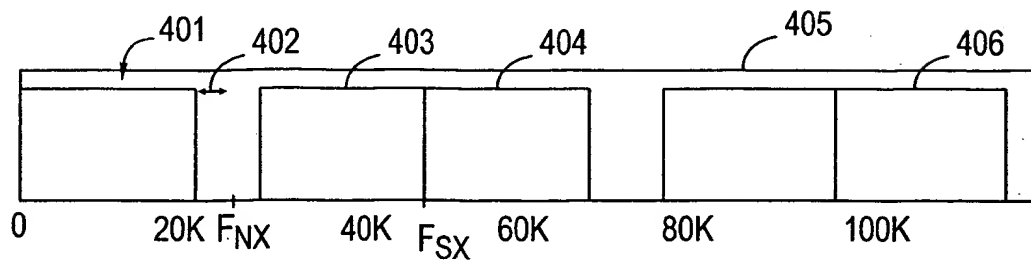


FIG. 4B
(Prior Art)

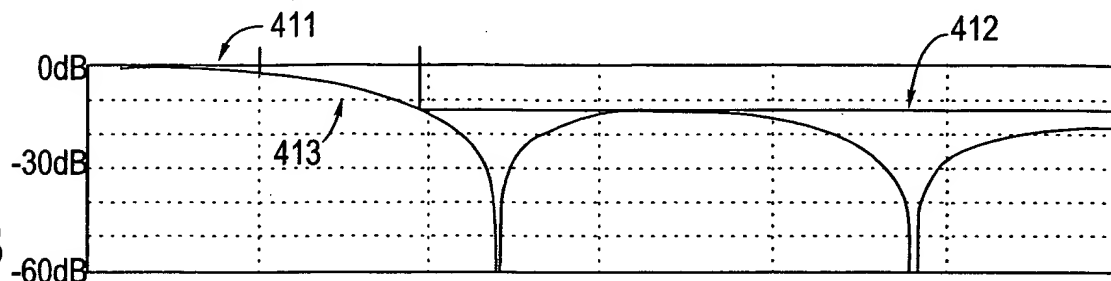


FIG. 4C
(Prior Art)

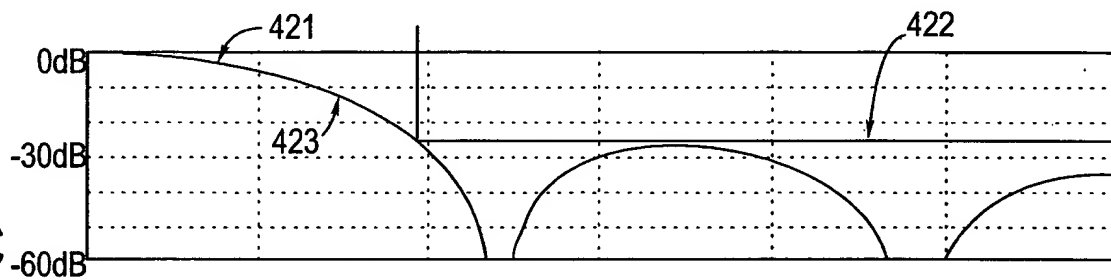


FIG. 4D
(Prior Art)

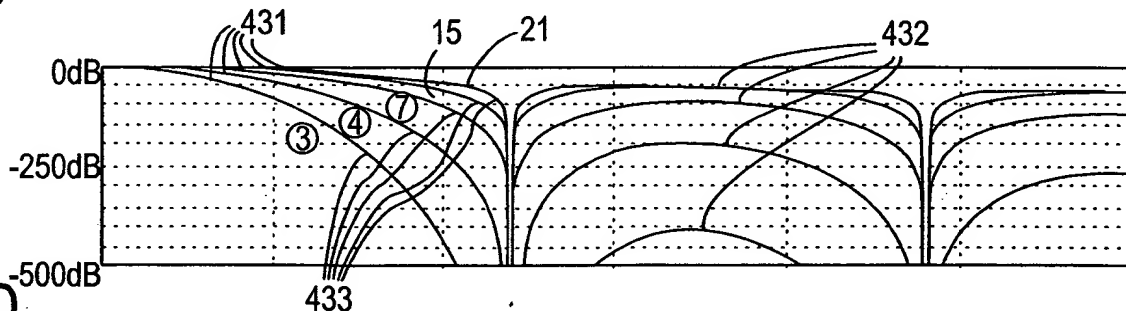
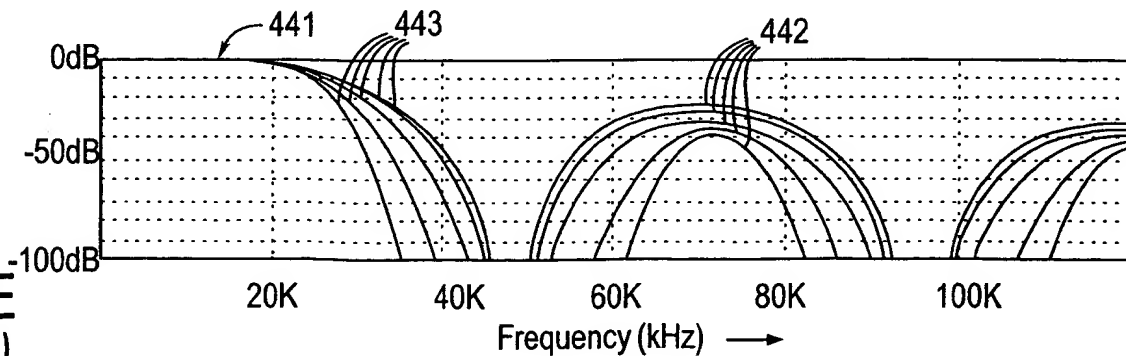


FIG. 4E
(Prior Art)



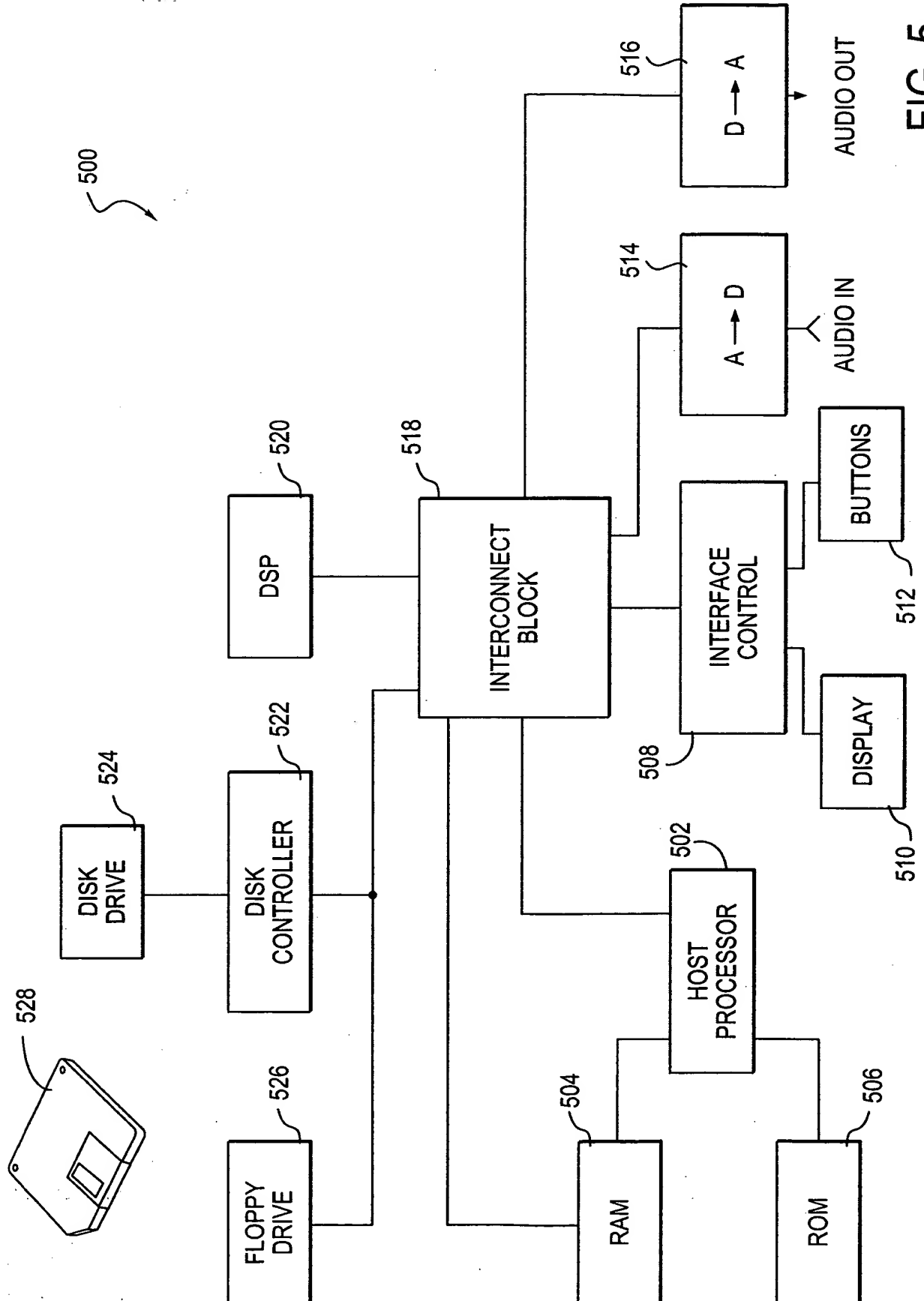


FIG. 5



FIG. 6

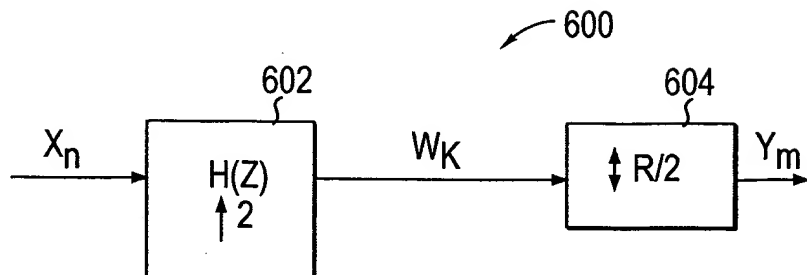
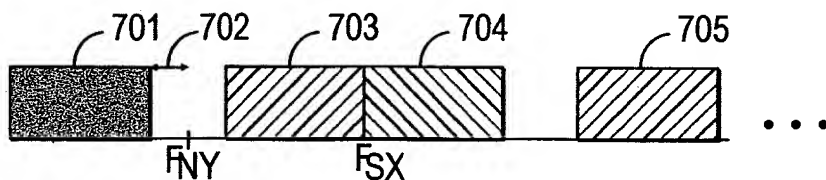


FIG. 7A X_r



upsampling filter
FIG. 7B

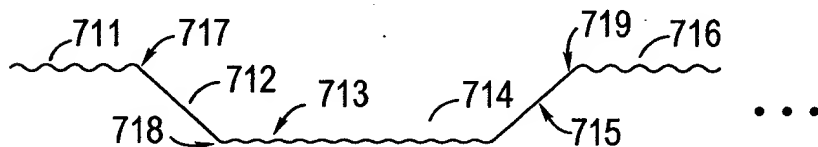
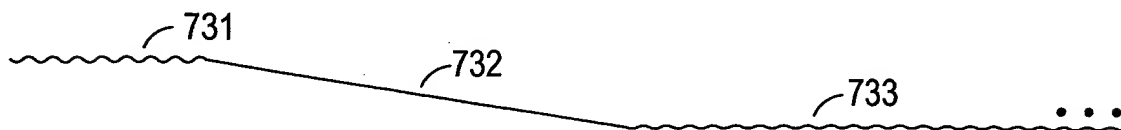


FIG. 7C Y_k



interpolator
FIG. 7D



interpolation result
FIG. 7E



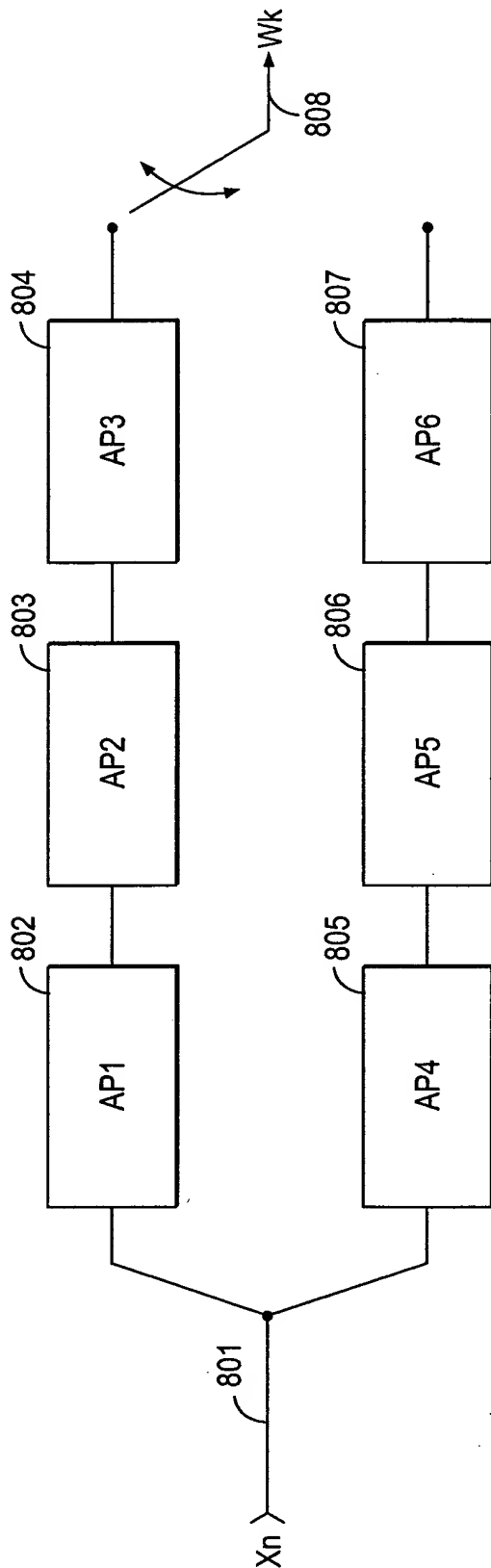


FIG. 8A

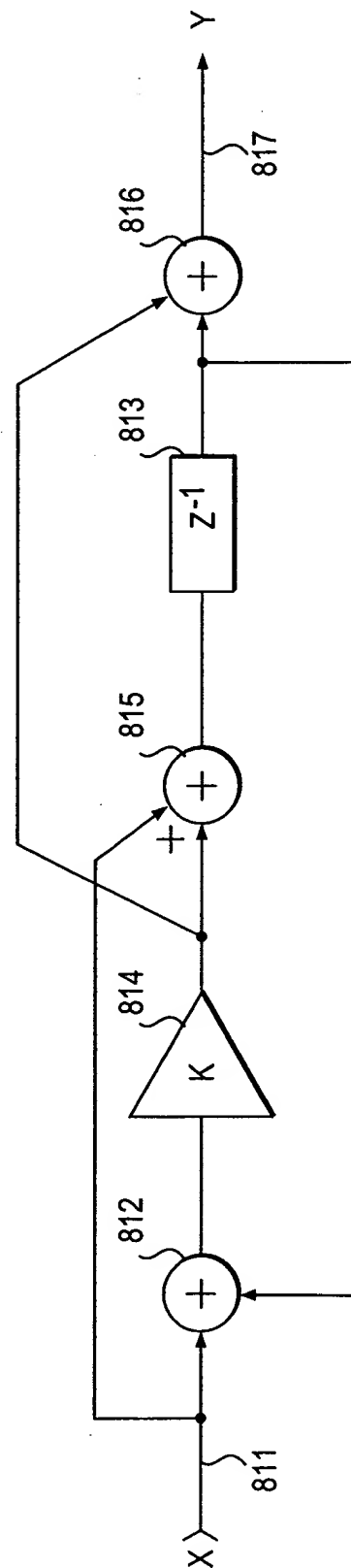


FIG. 8B

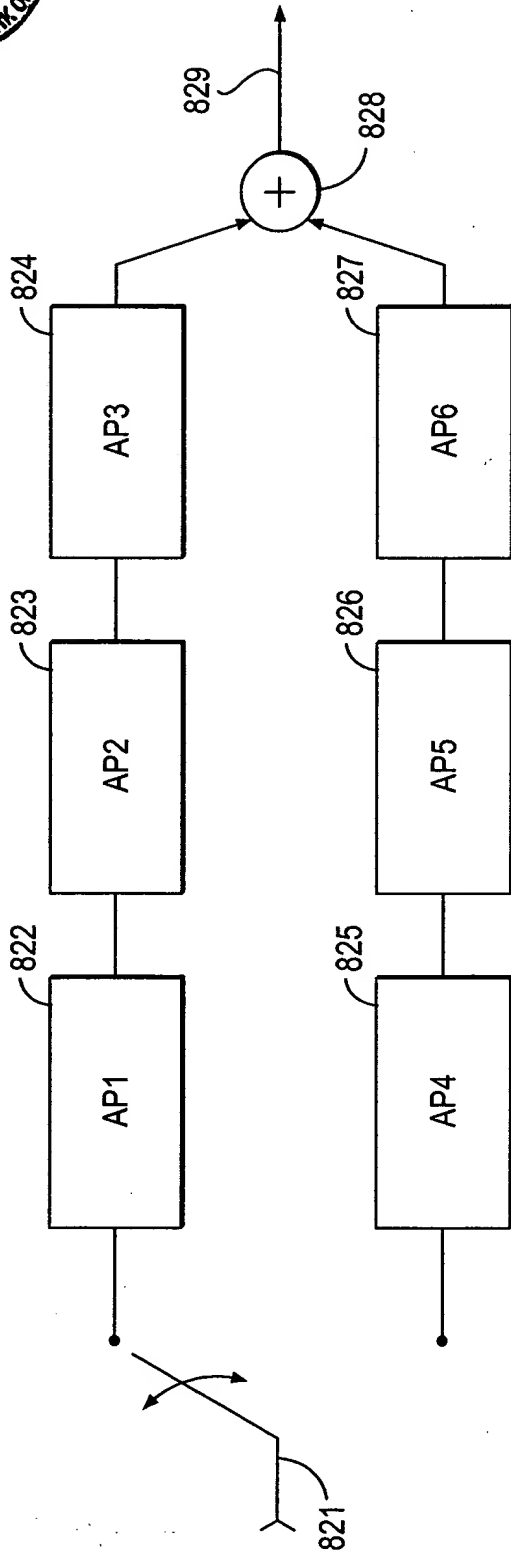


FIG. 8C



FIG. 9

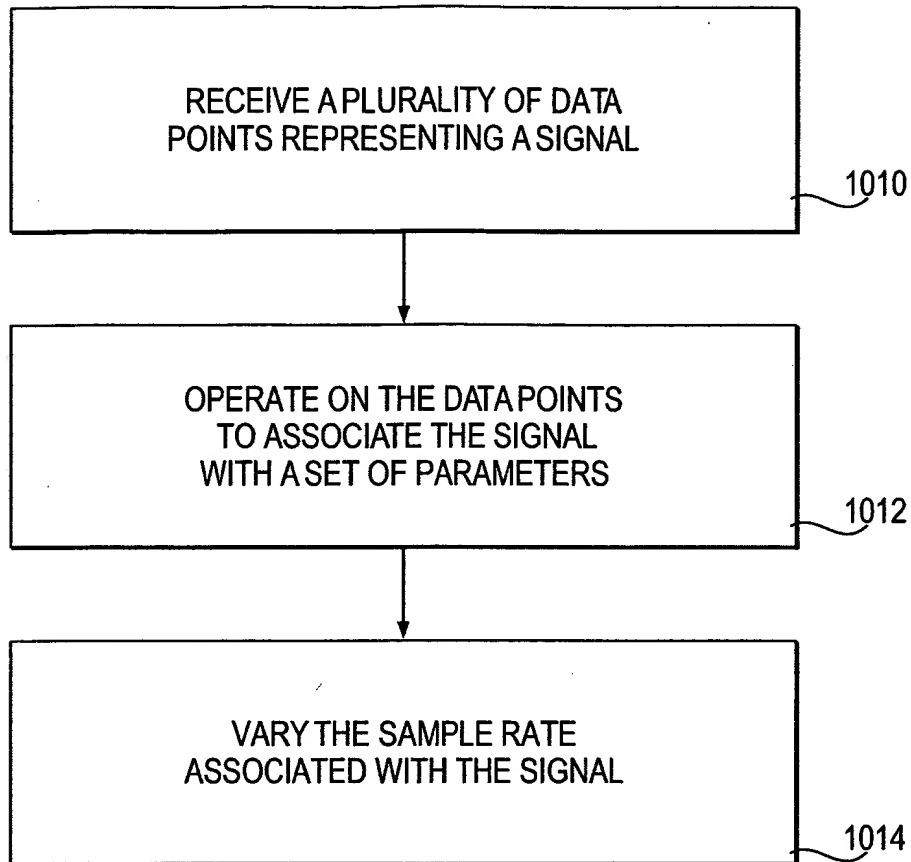


FIG. 10

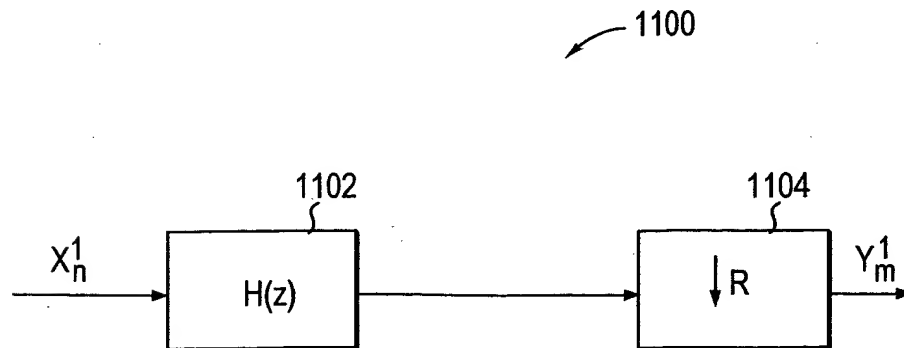
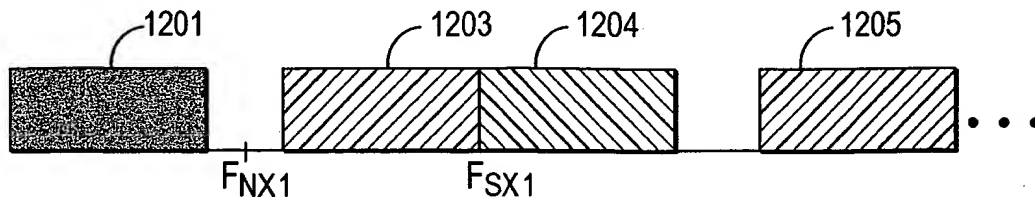


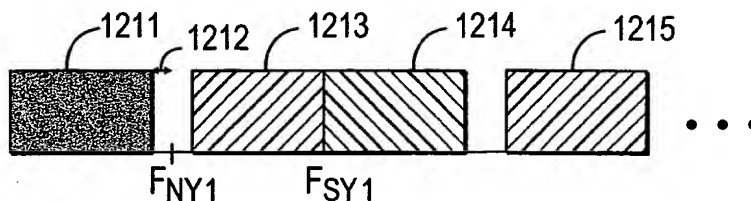
FIG. 11



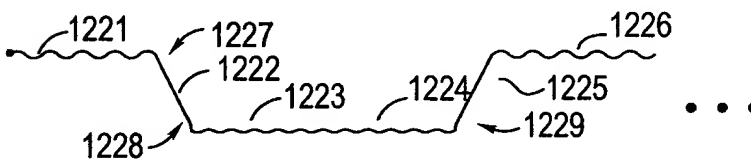
X_n^1
 FIG. 12A



Y_m^1 spectrum
 FIG. 12B



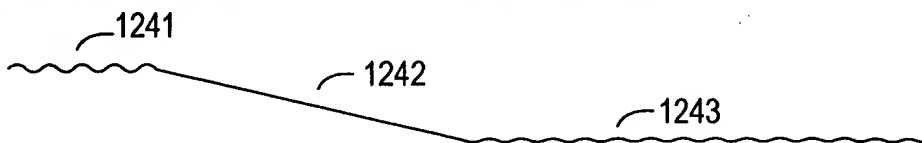
half-band filter
 FIG. 12C



intermediate
 signal
 FIG. 12D



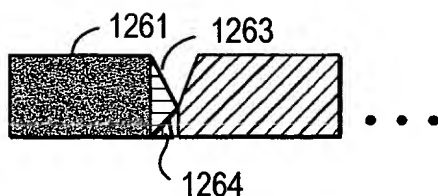
interpolator
 FIG. 12E



interpolation
 result
 FIG. 12F



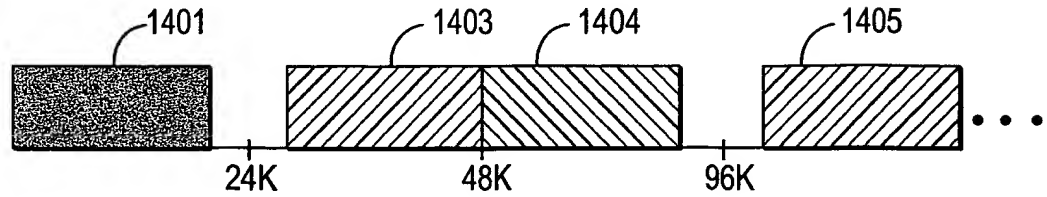
Y_m^1
 FIG. 12G





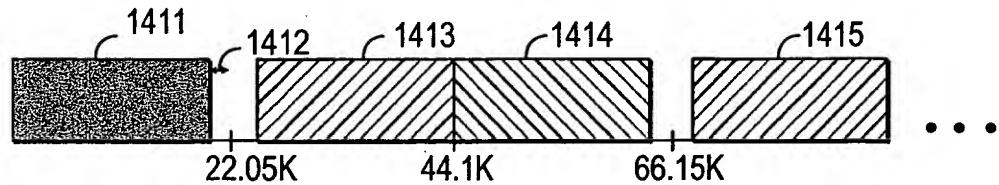
48 kHz
input spectrum

FIG. 14A



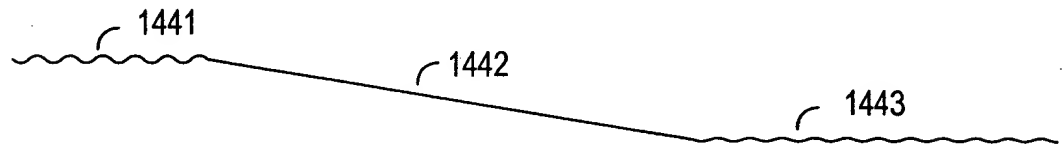
44.1 kHz
spectrum

FIG. 14B



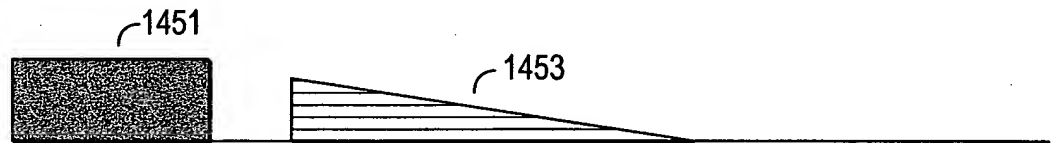
interpolator
filter

FIG. 14C



intermediate
signal

FIG. 14D



half-band
decimating filter

FIG. 14E



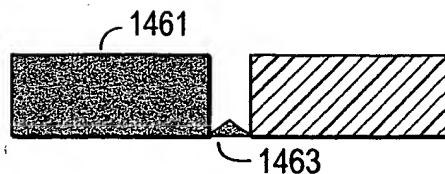
half-band filtered
prior to decimation

FIG. 14F



decimated
Output Signal

FIG. 14G



Frequency →

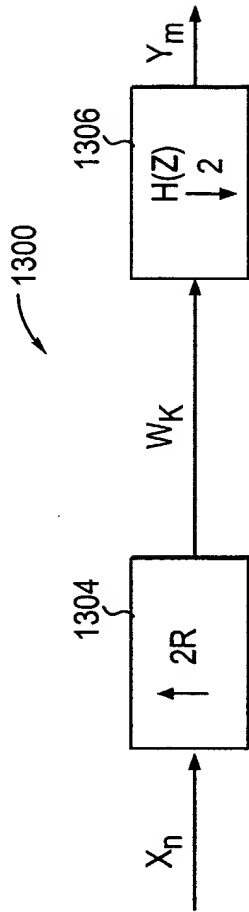


FIG. 13

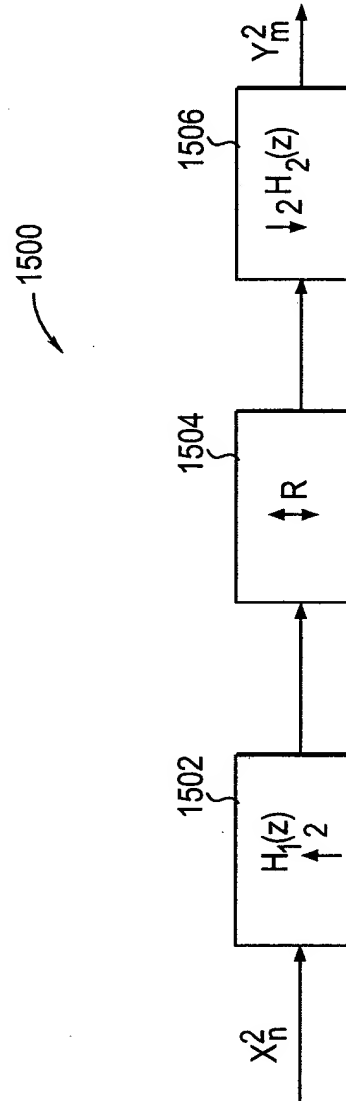
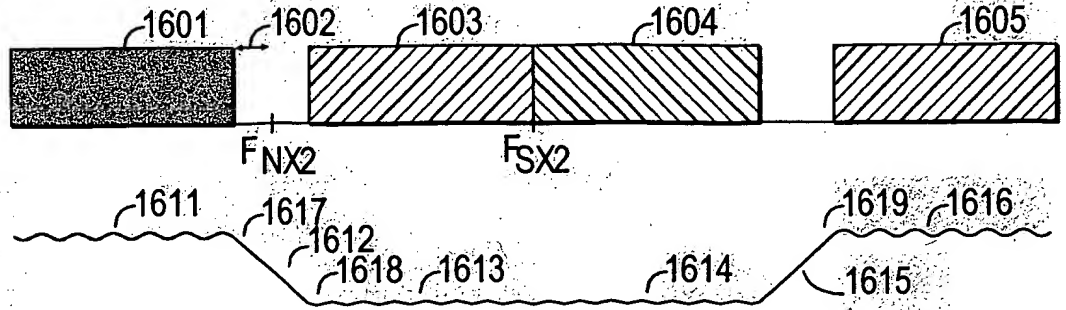


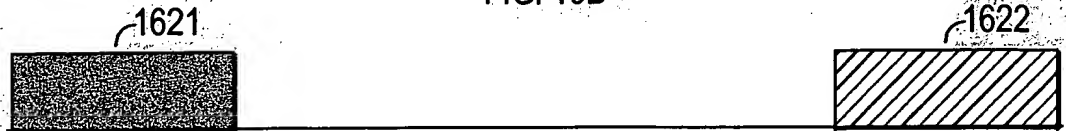
FIG. 15



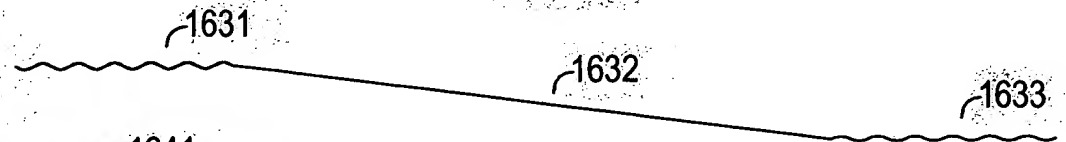
x_n^2
FIG. 16A
 half-band
 upsampling filter
FIG. 16B



1st Intermediate
 signal
FIG. 16C



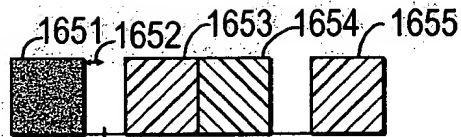
Interpolator filter
FIG. 16D



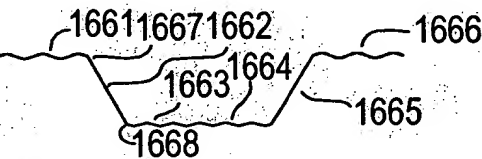
Interpolator filter
 results
FIG. 16E



output signal
 spectrum
 allocation
FIG. 16F



Half-band
 decimating filter
FIG. 16G



Half-band filter
 results: prior to
 decimation
FIG. 16H



Decimated
 output signal
FIG. 16I

